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## ABORIGINAL ROCK ENGRAVINGS AT BOOM BOOM SPRING, WALDBURG RANGE

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### INTRODUCTION

The Waldburg Range lies 150 miles north-west of Meekatharra at latitude 24deg. S., longitude 117deg. E., in Western Australia. Approximately ten miles west, across a flat plain, is an unnamed range, extending north and south over a distance of about five miles. This range lies between the Rivers Gascoyne (22 miles south) and Lyons (12 miles north). The fall from its north-western slopes is into the Thomas River.

About midway along the eastern edge of this range, and five miles north-west of Waldburg Station homestead, the Boom Boom spring is located in the stony bed of a dry creek which, rising

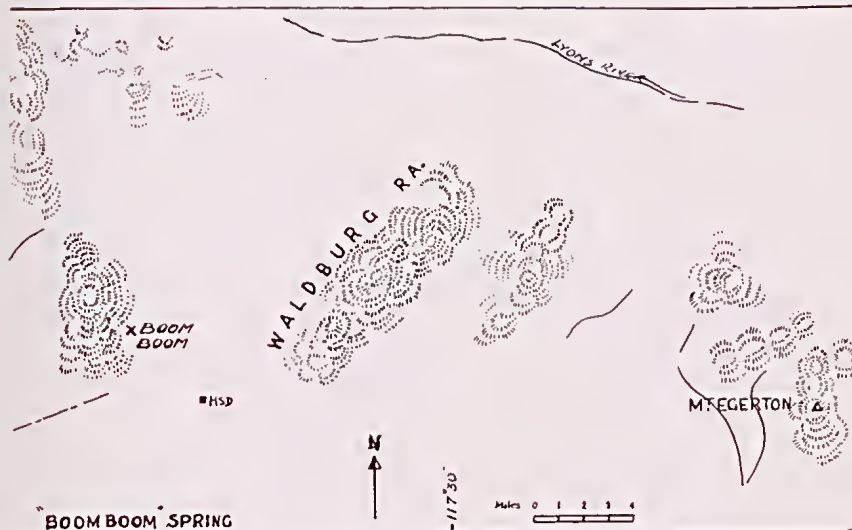


Fig. 1—Location of Boom Boom Spring.

back in the range has cut a small gorge through this last ridge of dolerite to escape eastwards into the plain. I had been shown the spring and the area of engravings about it in March, 1967, by Mr Alan Bain of Mount Clere Station. Since there appeared to have been no systematic investigation ever made, a second visit was undertaken in August accompanied by the Reverend C. O. Leigh Cook, Master of Kingswood College, and Siskra Vallebhoma of Thailand, an archaeologist now engaged in studies in



Fig. 2—General appearance of the Boom Boom Spring area.

anthropology at the University of Western Australia. Mr John Woods, on whose property the spring is located, was most helpful. He has indicated other sites of engravings, which it is hoped to examine later. The two and a half days spent at Boom Boom were fully occupied examining that site alone. Boom Boom was again visited by the writer in May of 1968 and further examination was made.

The ridge in which the spring is situated is of tumbled dolerite stones of varying sizes, and gives way along its eastern slope to a parallel belt of gibber country averaging 250 yards in width. In turn this merges into the plain, carrying mostly sparse mulga, which continues flat and uninterrupted eastwards till the Waldburg Range rises abruptly, presenting to a viewer from above the spring a long and impressively massive block on the skyline. To the same viewer, another 20 miles behind the southern end of the Waldburg block the striking, pointed summit of Mt. Egerton appears, while the northern end stands against the steep-sided Teano Ranges, 20 miles beyond.

The area in which the engravings occur is found on the top and slopes of the eastern ridge on either side of the gorge, and in the belt of gibber on its east. For convenience of investigation the area is described under five headings.

1. Clearings. In the gibber belt, over a distance of 600 yards south of the gorge, and 400 yards north, and on the top and slopes of the ridge over a lesser distance, there are more than 200 separate small areas which have been cleared of stones and scrub, leaving a smooth floor of red soil.

2. Approach to the gorge. From the east across the gibber to the mouth of the gorge.

3. The gorge. A three-fold division, moving up-stream.

- (a) The entrance. From the actual point of emergence of the creek into the plain to the first bend 30 yards up.

- (b) The spring section. This covers a distance of 120 yards from the first bend and has the spring situated almost at its centre.

- (c) The inner gorge. A stretch of 50 yards from the end of the spring section.

4. The ridge. This is cut by the gorge into two parts, (a) North, and (b) South.

5. The engravings are examined under the following headings:

- (a) Types of workmanship,
- (b) Age,
- (c) Groupings of subjects,
- (d) General.

## 1. CLEARINGS

Some of these clearings are as big as twelve by six feet, the average being about six by three. They are usually roughly oval in shape, though without apparent uniformity. On the ridge especially on the steeper northern side of the gorge, they are arranged roughly in terraces following the contours of the hill. Where they exist in the gibber belt they run parallel, and reasonably adjacent, to the foot of the slope. Towards the extreme ends of the thousand yards increasingly less engravings are to be seen until eventually none at all is to be found. Elsewhere, around these clearings there is a noticeable density of engravings.



In many of the clearings there is a flat, heavy, squarish stone, sometimes four to six inches thick and 15 inches long, whose surface is polished by friction. This surface is quite flat with no sign of grooving or hollowing which normally appears on stones used for grinding food. The hardness of the dolerite stone may account for this. The best examples of these flat stones are seen near the high point of the north bank above the gorge entrance. (G). Here the stony surface includes large rounded stones of up to two or three feet in thickness and, in some places where clearings have been made, the result is more like a shallow pit surrounded by a two or three feet rampart.

A common feature in nearly all of the clearings is the abundant presence of chips of stone and quartz, many foreign to this area. Small chipped pieces of quartz, flint chips resulting from the knapping of larger stones, pieces of shale, and sometimes of coloured stone from elsewhere, are to be seen in profusion. Many of these pieces show chipped edges from scraping or cutting.

A noticeable feature is that no clearing was found in association with sheltering overhangs of ledges or rocks. All are well in the open.

In some instances standing stones with engravings are associated with clearings. (Fig. 4, no. 4).

## 2. APPROACH TO THE GORGE

Two hundred yards east of the gorge mouth, on the edge of the gibber belt, is an area which was once cleared of stones. Around this a circle of larger stones was placed. Central within it is a shallow mound of smaller stones (about three to five inches thick), 12 feet across and 12 inches high. In the middle of this mound is embedded an upright stone column, 12 inches in diameter. A search revealed the broken top piece of the column some 20 yards away to the east among the circle of larger stones. This piece fitted perfectly to bring the column top 18 inches above the surrounding mound. (This stone will be referred to as H.). On the gibber stones round about are engravings of hands, feet, and lizards.

From the stone H it is probable that a line of small erect stones, about 25 yards apart, once led west towards the high point G on the north ridge. This is indicated by arrangements of stones which have been used as wedges about their bases to hold them upright. Only the two nearest of these stones still stand though some lie near their former positions with signs of having their bases embedded in the ground. Movements of grazing cattle could well be responsible for the upending of these stones. Below G where this line would have reached the foot of the ridge, a two by one foot flat stone was found (now in the W.A. Museum) on which were engraved three longitudinal lines with a number of circles on each. This one also stood erect.

Throughout the gibber belt hundreds of the loose surface stones have been engraved with simple subjects such as feet and emu tracks.

At the mouth of the gorge, one finds converging through the gibber, the creek on the north side, with a track cleared of gibber running on its far (north) bank, and a second track coming in from the south-east. This second track appears vaguely to start near H, swinging first to the south-west. Then it becomes very plain, straighter, and well defined for the last hundred yards to the gorge mouth. These tracks are six to eight feet wide and appear to have Aboriginal significance. It is most unlikely that they have been made by pastoralists.

### 3. THE GORGE

(a) **The Entrance:** At its mouth, on the eastern side of the ridge the gorge is 20 yards wide. The south bank here is shallow, rising to 30 feet in 50 yards. The high northern bank is a mass of tumbled boulders, some quite large, rising abruptly 60 feet. Fifteen yards inside the entrance is a stone watering trough built by pastoralists years ago. In good seasons water was piped to it by gravity from the spring 80 yards upstream. On both sides of the gorge entrance are engravings of which Fig. 3, Nos 5, 6, and 21 are examples. An eagle (Fig. 4, No. 5) looks down from a position half way up the north wall, on people entering the gorge, then over their heads to the Waldburg Range. Adjacent is another eagle, and a head-dress (Fig. 4, Nos. 6 and 13). Many carvings are located on each side of the entrance.

(b) **The Spring Section:** Just beyond the watering trough the creek bed swings towards the south. The south-east bank (on the left) now develops into a sharp rocky wall 20 feet high, rich for 90 yards in engravings as it looks down on the spring. Here are representations of boomerangs (Fig. 4, No. 25), emu eggs (Fig. 4, No. 23), rainbow (Fig. 4, No. 18), and designs (Fig. 4, No. 28). Stick figures, hands and animals are also to be found here. The opposite, or right, bank, is sparsely decorated by comparison. At the time of our visit which was in a dry season the spring itself consisted of a small, shallow, green, stagnant pool with a surface diameter of about four feet.

(c) **The Inner Gorge:** At the end of the spring section the creek bed changes direction again, towards the west. From here, another section starts which, after 50 yards, narrows to another gorge, tiny and only eight feet wide. At this narrow point the left bank is 20 feet high but the northern only six. This point marks the end practically of the consistent appearance of engravings. Beyond this, the creek swings further west and continues back to its source deep in the range. In this section the south wall contains a variety of carvings, including naturalistic emu feet, and a serpent-like figure (Fig. 4, No. 27).

### 4. THE RIDGE

(a) **The North Ridge:** The gorge cuts the ridge simply into a north and south division. As already described, the bank of the north ridge rises abruptly from the gorge. At its summit and about 20 yards further north, are two outcrops standing five or six feet above the rest of the dolerite boulder-covered ridge, labelled G and G1 respectively. Terraces and clearings follow contours round the crest immediately behind and to each side of these outcrops. The area is actually part of a much larger ridge which continues higher and beyond. However clearings and engravings are not evident beyond about 30 yards up the hill from G and G1 (ie. north-west). This area is rich in engravings and again here is to be seen a noticeable connection of carvings with clearings. An example is that (Fig. 4, No. 20) which stands above one end of a two to three feet deep clearing. This northern ridge was examined as it followed the stream about 200 yards up to a point above the inner gorge. It was found that the carvings end almost completely as the view down stream of the gorge mouth and the Waldburg Range is cut off by the shoulder of the ridge. All that was to be seen beyond here were a half dozen engravings of simple design—footprints and grids which had the appearance of being very old.

However the eastern slope of the northern ridge, from the gibber flat at its foot, up to a line running north from G1 contains many interesting engravings including very weathered radiate



Fig. 3—Rock engravings at the Boom Boom Spring



figures, a quaint animal possibly a mouse, a tassellated girdle, and many designs.

(b) **The South Ridge:** This resembles a "finger" about 120 yards long and averaging 40 yards wide, bounded on the east by the gibber flat, on the west by the creek bed and the spring, and terminating northwards in the gorge entrance. The "hand" to which the finger is attached on the south is a larger ridge. Along the side of the ridge overlooking the gibber is a number of small outcrops designated here from south to north . . . E3, E2, E1, E, E4. Two other outcrops on the west side of the ridge looking down on the spring are E5 and D. Terraced across the saddle between E and D are situated many clearings with which are associated a large number of engraved stones. This area is one of the richest parts of the site.

## 5. THE ENGRAVINGS

(a) **Types of Workmanship:** Various types of techniques, artistic skills and degrees of sophistication are seen in the engravings on Boom Boom site. There are stick figures (Fig. 3, No 33), outlines (Fig. 3, No. 12) and filled-in figures (Fig. 3, No. 9).

The technique commonly used is pecking, in which the artist strikes a pointed stone against the surface of the rock on which he is working. The accuracy of outline in some of the engravings here and the hardness of the dolerite rock suggests the possibility of a pointed stone being struck by another, chisel-like. The surface of the rock is removed by the peck, leaving the under layers to show through yellow against the chocolate brown surface. The type of rock surface here is pitted or rough making it difficult at times to trace the original outlines, especially when there may be super-impositions or additions. In a number of instances this has occurred (Fig. 4, No. 1) with no apparent meaningful connection. There are other works where it is easier to see a connection (Fig. 3, No. 23).

A variation in technique is found in the gorge entrance at the foot of the north ridge (Fig. 4, No. 10). Here a broad Y-shaped figure has been made by marks spaced fairly evenly apart, each being about 3/8 inch long. These appear to have been made by a stone struck with a glancing blow across the surface of the rock. Seven such shaped figures were found, all executed with the same technique. It is of particular interest that no other carvings were found in which this technique was used, though a thinner and longer type of gash more spasmodically placed was seen in an old carving of a man wearing standing hair, or a six-rayed vertical head-dress on the east slope of the north ridge. Associated with the first Y-shaped figure is a beautifully executed circular figure which first appeared to be a number of concentric circles. However closer examination proved it to be one continuous pecked line which the artist has drawn with fascinating skill.

It is a feature of this site that none of the engravings is very large. The largest is no bigger than two and a half feet. This is conditioned by the size of the stones available. There is no opportunity for continuous "gallery" engraving because of the broken nature of the country. Almost all the illustrated figures were just smaller than the rocks on which they were executed.

In the gibber belt to the south of the direct line between H and G, round about the points marked A and B, are lines on a number of rocks which are difficult to assess. At first sight they appeared to be very old grooves. The difficulty lay in the association of these lines and natural faults in the stone which they followed. However it does seem possible that what was a natural



Fig. 4—Rock engravings at the Boom Boom Spring.



fault line was enlarged by gouging or rubbing along its length. If this be the case no individual marks are any longer visible.

The lizard-like figure behind the bird in Fig. 4, No. 5, is very faint and appears to have been executed by hammering the entire area with a blunt stone.

It is possible that the other eagle (Fig. 4, No. 6) was pecked originally, but the outline appears to have been rubbed very much since. This could be consistent with the practice of renewing the figure from time to time as part of an increase ceremony.

(b) **Age:** Unfortunately there appear to be no Aborigines of local origin to act as informants or throw light on the age of engravings, or their meanings. To date no reliable method has been satisfactorily developed to assess the age of such works as these, though attempts have been made to do so by a geological examination of the rock and its surface. Crawford (1964) gives reports of attempts along these lines in connection with the engravings at Depuch Island. At Boom Boom, as elsewhere, varying degrees of hardness of the surfaces on different rocks, depth of patina, and degree of weathering according to sheltered or exposed position, are some of the variables influencing any assessment of age. Even on the same stone there may be variation at different parts. Mr Alan Bain has spent all his life in this country, and in his childhood was associated very closely with the Aborigines of this and surrounding areas. He can tell of many initiation ceremonies held at creeks and waterholes in the district, but to his knowledge this site has not been used in his lifetime. Thus it is most unlikely that the most recent of these engravings is less than 40 years old. The hands (Fig. 3, No. 20) have the appearance of being among the most recent.

Others have been weathered almost out of existence, only the depth of the grooved impressions indicating the great amount of weathering which must have been responsible for such near-complete effacement (Fig. 3, No. 12). It would appear that some of the work is very old because of (a) the marked difference between Figs. 3, Nos. 20 and 12, assuming the former to be not less than 40 years old, (b) the contrast between the original work and the later additions to the same carving (Fig. 3, No. 23), and (c) the extent of weathering in at least one instance where the surface is relatively quite hard and has been sheltered from sun, wind and rain by overhanging rocks about E1 (Fig. 4, No. 22).

It is a characteristic of dolerite that where a rock cracks open the new surfaces exposed have a fresh grey-green colour. In a number of instances the surface of chocolate brown on which an engraving has been executed has been thus cracked and the engraving divided. In one instance a six-toe human foot has been pecked on such a "new" surface. Along one edge of the surface the characteristic brown colourization has begun to occur. If it were possible to work out a time-table for degrees of colouring we would have some indications as to the youthfulness of this foot.

(c) **Grouping:** Only in the case of the Y-shaped figures does there seem to be a complete concentration of a particular subject in one particular area. However it is obvious that greater interest is shown in specific subjects in certain areas. For example above the gorge entrance on the wall of the north ridge the largest figures are found—the eagles and the Fig. 4, Nos. 13 and 15. Further up the slope near G and G1 are standing stones (Fig. 4,

No. 4). Around E is a grouping of female figures of unusual design (Fig. 3, Nos 7, 8, and 27).

On the hillside C are human feet and emu tracks (Fig. 4, No. 29; and Fig. 4, No. 7). This latter is probably a hunting scene. In this area also are lines and grids. The feet, tracks and lines would seem to indicate an accent on movement. In the gibber flat about A and B is a noticeable concentration of lizard and goanna-like figures (Fig. 3, No. 9).

(d) **General Description of the Engravings:** This is examined under subject headings.

(i) *Human.* A feature which soon strikes one searching Boom Boom is the scarcity of figures based on human forms. Such figures, as described by Wright (1964, 1968) in the Pilbara, or McCarthy (1962) at Port Hedland, or Crawford (1964) at Depuch Island are almost non-existent here. Fig. 4, Nos. 2 and 21, belong possibly to a spirit figure category. The female figures (Fig. 3, Nos. 7 and 8) are similar to each other in concept though different in technique. Wright (1964; 108) reports inverted female figures at Madabanna Pool on Sherlock Station. It will be noted that one of these Boom Boom figures (Fig. 3, No. 7) is also inverted. In addition, it is difficult to find female figures in reports of other sites quite like these. Another type of female figure is found here (Fig. 3, No. 27). Among other human figures, a man with a boomerang in his hand, stick figures, and the outline (Fig. 3, No. 26) were seen. An excellent example of a pair of human feet is found on the east slope of the south ridge (Fig. 4, No. 29). Another of a single foot is in the entrance to the gorge (Fig. 3, No. 6). In the gibber flat between H and the foot of the slope below G, human feet are pecked in tracks, one to a stone. There is a similarity between Fig. 3, No. 33 and Wright's Upper Yule figure (1968, Fig. 17).

(ii) *Insect.* Fig. 3, No. 2, appears to represent a sugar ant, although an alternative suggestion was an echidna.

(iii) *Bird.* Only two emus were located similar to the pecked in figures on Depuch recorded by Crawford (1964; 45), but the stylized track is ever present throughout the entire site. There are several examples of a naturalistic emu footprint. The most elaborate is illustrated (Fig. 3, No. 29). There is also at least one clutch of emu eggs with the foreleg and foot of an emu on each side. Throughout the site there are many groups of circles. This motif is known to have meanings ranging from waterholes and sites (camp, ancestral, etc) to emu eggs, and often such a variety of interpretation within the one group of people. The only other obvious birds were the eagles already mentioned.

(iv) *Other Animal.* Lizards or goannas appear as common subjects. One flat horizontal stone in the entrance to the gorge shows boomerangs or boomerang-shaped tracks, with possibly two lizards and a man (Fig. 3, No. 5). A variation in technique is found in the filled in pecked figure (Fig. 3, No. 9). This was found near B in the gibber flat and seems to have once occupied an erect position. Fig. 3, No. 32, is probably a lizard among a series of circles, although a less likely possibility is that it represents a female figure. Another lizard shows from behind the bird (Fig. 4, No. 5). A number of engravings appearing to differ in date of execution are superimposed in Fig. 4, No. 15, one of which is probably a goanna. Fig. 4, No. 20 is also likely to represent a lizard. It stands on the summit of the north ridge overlooking a clearing. A stylised four-legged animal in profile, difficult of interpretation, is found below D near the spring. On the east side of the north ridge is another animal, full face, still waiting identification.

Serpent, or serpent-like tracks. A clearly worked example is engraved on the west side of the south ridge, below E5, overlook-



ing the creek. Other such engravings are illustrated (Fig. 3, No. 18, 31; Fig. 4, No. 14). This type of track, especially the first shown here, is sometimes used as a map indicating water-holes. This could be its purpose here.

Kangaroo. It is interesting that there is no clearly engraved kangaroo on the site although there are many tracks carved (Fig. 3, Nos. 10 and 14). Possibly a kangaroo or wallaby is to be found in the composite carving (Fig. 4, No. 15). Doubt exists as to the identity of some of the animals depicted (Fig. 3, No. 34). According to Worms (1954: pl. 3h) parallel lines are sometimes used as a type of filling in, but only with male figures. Among possible interpretations of these two figures could be Tasmanian wolves, kangaroos, fighting bungarras. Three carvings of these pairs of creatures were found. These figures could even be connected with the Pilbara human figure shown by Wright (1968, Fig. 16).

Tortoise. The best examples of this subject are shown (Fig. 4, Nos. 11 and 26), the latter being remarkable for the care with which the outline circle of the body has been done. Two long-necked tortoises are engraved on the south ridge above the spring.

(v) *Designs*. These vary from the simplest of grids, to the well defined circle of dots between the human feet (Fig. 4, No. 29), and the complicated collection (Fig. 4, no. 22). The simplest grids consist of a vertical straight line crossing three parallel straight lines. On the site is a number of radiate engravings, some with lines leading regularly from the centre to an outer circle. While the interpretation of a circle is often a waterhole, the resemblance of some of these circles with radiating lines to the strong, large spider webs found in large numbers here is perhaps more than coincidental. In some circles irregular straight lines lead out to the circumference (Fig. 4, No. 3). This engraving has a small figure or an emu footprint emerging on the left and kangaroo tracks above. Fig. 4, No. 28, is a design frequently seen out as far as the desert to the east of Wiluna. The circular designs range from the single example (Fig. 3, No. 17) to clusters (Fig. 3, No. 28; Fig. 4, No. 23), and "square" circles (Fig. 4, No. 24). Fig. 3, No. 24, is probably a track of ancestral significance. Among other designs are boomerangs (Fig. 4, No. 25). Fig. 4, No. 18, is a deeply pecked, old, carefully executed carving on the west side of the south ridge near the spring. It suggests a rainbow rather than a boomerang, and bears resemblance to Worms' rainbow snake (1954: pl. 5b), which he describes as a symbol of fertility. The technique used in Fig. 4, No. 10 has already been described. An interpretation is difficult without reliable informants. An Aboriginal told me it represented a place of circumcision.

(vi) *Head-dress*: Fig 4, No. 16 is somewhat similar to the head-dress of the man at Watering Valley on Depuch Island (Crawford, 1964: 41b), and has the tassel-like appearance of some engravings at Hamersley (Wright 1964: 107). Fig. 4, No. 13 is a head-dress of a type used on the Murchison. It is very similar to one at present in the collection of the W.A. Museum.

(vii) *Trees*. Trees or plants are shown (Fig. 3, Nos. 25 and 30). The latter is almost certain to be a stylised form of a type of mulga growing plentifully in the district. The tree-like carvings (Fig. 3, No. 3; Fig. 4, No. 9 and 19) are similar to Wright's figure at Hooley (1964: 103). The first two have a figure at their bases. The second has a clearly defined track running along its length on the left. The straight lines adjacent to the trees (Fig. 4, No. 19), have a resemblance to those carved on a standing stone on the south ridge (Fig. 4, No. 12), at C.



(viii) *Other*. There still remain the Fig. 3, No. 4; and Fig. 4, Nos. 4 and 8. These have a similarity of appearance (especially the second) with the "wanigi" of the mosquito totem man of the Southern Aranda (Berndt, R. M. and C. H. 1964: 208, 209). Certain Warburton Range people drew for Tindale (1936: 208) the wanigi made by the Wati Kutjara at the Talatala. This bears favourable comparison with the first and second above.

## 6. SIGNIFICANCE OF THE SITE

Unfortunately it seems most unlikely that Aboriginal informants of local origin can be located. Movements of population towards towns, particularly towards the coast, have robbed the district of all local Aborigines. Following the experience of a number of investigators, it is doubtful that reliable information could be obtained even if tribal members, now remote in residence and generation, could be found and taken to the site.

Examination of the linguistic work of von Brandenstein (1967: map 3) shows inhabitants of this area to be Wadjarri people. Boom Boom appears to lie in the northern end of their country, and they carried the name indicating this, Jaburru. Coastal tribes beyond the circumcision line lay to the west of the Wadjarri. It is likely that the spring would be within approximately 20 miles of the language boundary with the Lira Wadjarri, to the west, and within 35 miles of Mt Augustus which marked the boundary between the local people and the northern tribes. This could give significance to Boom Boom as a place of contact between tribes for trade and other purposes.

The logs of the early explorers who travelled through Western Australia in this general area—F. T. Gregory in 1858, Forrest in 1874 (1875), and Giles in 1876 (1889)—do not give very much information of Aboriginal life, though Giles does indicate a reluctance of people from further south near Cheangwa Hills to proceed too far north because of entering different people's country. Gregory travelled north up the Gascoyne from a point near Landor and gives a good report of a camp of 30 men and women he encountered on the 8th May (1884: 41). Their food included seed and roots, a few rats and a type of fig. Their weapons included 12 ft., heavy spears with 3 to 18 barbs cut out of the solid shafts. These people would be 90 miles west of Boom Boom and could have been border Lira Wadjarri or belonged to the neighbouring North Ingarda. Having traced the Gascoyne River to its mouth, Gregory returned by way of the Lyons River. He reported evidence of cannibalism at Mt Augustus. He then swung south and passed within ten miles on the west of Boom Boom.

In attempting to assess the significance of the site, a number of factors have to be considered. Firstly the clearings present difficulties. There are thousands of pieces of chipped and knapped stones and flints in the more than 200 clearings, and yet little of the expected accoutrements of camp life, as seen in many places throughout the surrounding country, can be found. The most obvious of these is the hand grinder. In the whole area investigated only one extremely rough and primitive hand grinding stone was found and a small piece of a woman's plate. Furthermore, not one of these clearings was near shelter though there was plenty of shelter in creek beds and hills suited for camping sites about six miles away. These factors throw doubt on the clearings being created solely for camping purposes. However they would be close enough to other camp sites for men to reach for the performance of ceremonies in the way which Spencer and Gillen (1899: 172) describe in their accounts of increase ceremonies in Central Australia.

In their descriptions of these ceremonies they show totem members sitting in a depression while sacred tjurunga are rubbed on to the totem then on to the bellies of the men. This opens the possibility of a link in some way with the deepest of the clearings at Boom Boom and the square stones within them. With this in mind a cave in a nearby ridge, 500 yards beyond the northern limit of the engravings, was examined, without success, as a possible repository for sacred boards or stones.

A further problem is the significance of the stone H and its connection with the entrance to the gorge indicated by the tracks and the line of standing stones mentioned earlier. This stone bears resemblance to the secret increase rite of the mosquito totem of the Yantruwanta tribe of south-west Queensland (Elkin, 1964: 218). Radcliffe Brown (1913: 160) records a description of totem increase ceremonies of the Kariara tribe of north-west Australia given to him by informants who stated at the same time that totemic ceremonies had been discontinued for many years. He speaks of the ceremonial centre or "taluk." "At many of these totemic ceremonial grounds there is either a single boulder or heaps of small stones and these play a part in the ceremony connected with the place."

Piddington (1932) describes 21 specific increase ceremonies among the Karadjerie people. The ceremony can centre round one or more holes in the ground, one or more stones projecting or buried. In the increase of wild honey a pathway of small stones is present. Of interest here is the statement of an Aboriginal to whom I described the stone H, that wherever there was a stone like that "something special buried nearby."

It would appear from an examination of all the factors, that there is some possibility of the site being one used for increase ceremonies.

By comparison with Wright (1968: Fig. 171) it appears that the "trees" (Fig. 3, No. 3; Fig. 4, Nos. 9 and 19) are head-dresses. This would make the carving (Fig. 4, No. 9) with the track along its border a head-dress worn by a man, and a much more significant figure. With this established, together with the knowledge that Fig. 4, No. 13 is a head-dress used in these parts, it is reasonable to assume the carvings (Fig. 4, Nos. 8, 12, 19—vertical lines) are head-dresses similar to the wanigi and used in ceremonies. The fact of their being carved on stones would seem to invest them with an importance, sufficient to suggest that this site may have been a centre of ancestor mythological ceremonies.

Another possibility is that the site was of hunting value. Certainly the spring is a place to which animals would come and where they could be trapped. Particularly would the inner gorge lend itself to the building of traps. However only one engraving was found which could be interpreted as a hunt (Fig. 4, No. 7). Though a man with a boomerang is seen on the summit of the north ridge, nothing was found representing a spear, or a spearing scene as described by Crawford at Depuch (1964: 52; 59, Fig. 7). However the fact of the spring, and the many tracks of the emu and kangaroo seem to indicate hunting associated with some type of hunting ceremony or hunting charm manufacture.

### COMPARISON WITH OTHER SITES

Few sites of engravings have been recorded in detail in this part of Western Australia.

Red Rock, on Yarlaweeor Station, is 70 miles south-west of Boom Boom. Stokoe (1959: 61) describes it as an important initiation centre. These people could have been Wadjarri, but they were once close to the boundary of more easterly tribes. There



is some similarity with the "serpent" (Fig 4, No. 27) and the concentric half circles (Fig 3, Nos. 5 and 6). Hands and feet with five or six fingers, and a tassellated design similar to Fig. 3, No. 20, Fig. 4 No. 16, respectively, are seen. But little else of comparable interest is noted.

An examination of the report of Davidson (1952) of drawings at Walga Rock, 180 miles south of Boom Boom, reveals little by way of significant comparison.

An attempt to link the local carvings with those of the Pilbara as illustrated or described by R. M. Berndt (1964), Crawford, Worms, McCarthy, and Davidson leads to little success. There are occasional similarities which have been recorded in this paper. Wright's monograph (1968) deals very fully with Pilbara drawings and engravings. Some similarity is seen in the matter of the tree head-dress, the barred oval design (Fig. 436) and the human figure with the hair or rayed head-dress (Fig. 187). However the almost negligible representation of anthropomorphic figures at Boom Boom, and of marine life is most obvious. The latter is understandable geographically but not so the former. There does seem to be rather a link, especially through the importance given to the wanigi with subjects much further to the east.

### CONCLUSION

From the number of clearings and the apparent age of some of the engravings, it would appear that Boom Boom was used over a period of many years. The presence of the wanigi head-dress points to the site being a mythological centre. Features of the stone arrangements and the engravings, compared with Spencer and Gillen and Piddington, are compatible with this site being used for increase ceremonies.

The suggested link with ideas from the east, even as far away as the Warburton Ranges, and an absence of the same affinity with coastal people, is in keeping with the division indicated by the circumcision line shown by Radcliffe-Brown (1912: 145), Tindale (1940: map) and von Brandenstein (1967: map 3) to be no further away than 35, 70 and 55 miles respectively on the west or north-west of Boom Boom.

A feature of the area about A and B in the gibber flat is the appearance of many of the larger stones. From the appearance of the stones it seems that they have been overturned or in some cases, even shifted. Yet this was obviously not done recently. It is difficult to find an explanation for this, but among the possibilities can be considered that of another group of people coming in and upsetting the earlier arrangements. This too could be the explanation for the strange situation at the stone H whose top portion was 20 yards from the embedded lower part. Whilst it can be understood that cattle could have dislodged or broken the stone, another explanation is needed to remove a 12-inch stone column 12 inches through, to a point that distance away.

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## NOTES ON THE BIOLOGY OF *VARANUS EREMIUS*

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*Varanus ercmius*, the Desert Goanna, is one of the most widespread of the Australian "pygmy" goannas, but also one of the least known. This handsome lizard (Figure 1) was described in 1895 by Lucas and Frost and later accurately figured in colour by the same authors (Lucas and Frost, 1896). These workers noted that Baldwin Spencer found the type specimen on the ground under logs and debris. Except for Loveridge (1934), who states that his collector (W. E. Schevill) reported that a Hermannsburg specimen had eaten a mouse, nothing new has since been published

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